

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Animal Industry
Animal Husbandry Division

CURING HOME-DRESSED PORK UNDER REFRIGERATION

By

K. F. Warner
Extension Meat Specialist

"What do the farm women think of the refrigerated meat curing houses that salt their home-dressed pork?" That was the question that Paul Newell, Extension Animal Husbandman in Mississippi asked his State Home Agent, Miss Cresswell. Miss Cresswell asked the county home agents and they asked the women. Here is the verdict. The meat is too salty. Often times the bacon is too dry and hard as well as too salty. The meat lacks uniformity. One never knows how it will taste. Complaints as to the lack of cleanliness of the plants, bins, and equipment were frequent.

A postscript on Miss Cresswell's report must not be overlooked. "Spoilage has been much reduced. You have taken the worry out of the pork barrel. Can't you give us a better job?" Patient and long suffering, the ladies appreciate the need for refrigeration and are still willing to give us another chance.

Mississippi faced the facts. The same facts need facing in most of the other States. The first job has been to stop spoilage, to spread the use of cold in curing pork. The next task is to make the product more palatable and usable. With cold as an ally the job is relatively simple.

Helping in the production of an adequate, enjoyable, home-raised food supply is a timely job, too. Whatever lies ahead, farm families can meet the challenge more effectively after a full and satisfying meal.

The experiences of the various States have been summarized in the following outline.

Six Rules for Curing Pork

(Based on experiences reported from the State extension services)

1. Chill freshly slaughtered pork thoroughly and promptly to a temperature below 40° F.
 - a. Spoilage germs appear in freshly slaughtered pork just as they appear in fresh milk. Both foods will sour within a few hours if not handled properly and promptly.

- b. Hot hog carcasses laid on the floor or hung so that they touch each other, or so that the body cavity is closed, have spoiled overnight even when kept in a 33°F. chill room.
- c. Prompt placing of freshly slaughtered carcasses, well separated, in a temperature below 40°, splitting the carcasses, dropping the head, and pulling the leaf fat speed up chilling.
- d. The heavier and fatter the hog the greater need for careful and prompt handling.
- e. Partially chilled home-cut pork must be spread for complete chilling. Piling it on a table or in a bin in the chill room is dangerous. Hanging or spreading the cuts is necessary. The movement of cold air in and around all pieces is essential.
- f. Carcasses and cuts may not show an inside temperature below 40° until after one or two days' chilling. Test the big cuts with a ham thermometer. Never pile meat in cure until after its internal temperature is below 40°.

2. Keep curing meat cold.

- a. The prompt chilling of freshly slaughtered pork is not sufficient to keep the meat from spoiling. It must also be kept cold during the curing period. If the temperature of the pork rises much above 40°F., many spoilage germs will grow more actively and may sour the meat while it is in cure. Delay that growth by keeping the meat at 36°- 40° during the weeks that it takes the preserving salt to penetrate.
- b. Well-chilled meat may be piled safely in bins or barrels during curing.
- c. Cut chilled carcasses quickly and return promptly to the cooler so that the meat does not warm up greatly in the cutting room. If it does warm up, rechill before piling it in cure.

3. Limit the quantity of salt.

- a. Eight pounds of salt has been recommended for dry-curing 100 pounds of trimmed pork cuts. This is too much. If most of the salt gets into the meat, it will be over salty. Eight pounds is the general recommendation to allow for carelessness. Five or six pounds is ample if the operator is careful to put it all on. Five or six pounds will make more palatable meat.

- b. Don't keep putting additional salt on curing meat. Some men can't bear to see curing pork without a covering of salt. Weigh or measure or learn to gage the amount of salt needed by each weight of cut at each overhauling. Apply that much evenly and then add no more.
 - c. If six pounds of salt are used to dry-cure 100 pounds of pork, rub half of it on when the meat is put in cure. Add the other half 5 to 7 days later. Do a careful job and then let the meat alone. If the meat is overhauled twice, save two-fourths of the salt to be added: one-fourth at 5 days and the last fourth at 10 to 12 days.
 - d. Bacon strips are usually oversalted. It is hard to get too little dry cure on this cut. Rub the broad surfaces of the bacon with the curing mixture then shake or knock most of it off. Give these thin cuts only a light "frosting." Overhauling is usually unnecessary.
 - e. Salt, sugar and saltpeter make up the standard sugar cure. The salt is to preserve the meat, the sugar to improve the flavor and the saltpeter to set the red color in the lean. When the 8-2-2 sugar cure is used (8 pounds salt, 2 pounds sugar, and 2 ounces of saltpeter) there will be 10 pounds, 2 ounces of mixture to put on 100 pounds of meat. If half the mixture is rubbed on the meat when it is first put in cure that will give 5 pounds 1 ounce. If a ham weighs 20 pounds it should receive $\frac{1}{5}$ of the total or about 1 pound. If it weighs 15 pounds, give it about $\frac{3}{4}$ pound. If the 6-2-2 formula is used by the careful man there will be only 8 pounds 2 ounces of mixture to divide among the two or three rubbings. If mild bacon is dry cured with a 3- $1\frac{1}{2}$ -2 mixture the operator will have only some 4- $\frac{1}{2}$ pounds to distribute over the broad surfaces and edges of the several bacon strips. This is a fairly light dusting.
 - f. When meat is pumped with brine, the amount of curing mixture used must be reduced in accordance with the amount of salt injected in the pumping pickle.
 - g. Cured bacon is often soaked for half an hour in tap water before it is scrubbed and hung in the smokehouse, longer cured hams and shoulders about 2 hours. Soaked meat will take a brighter color in smoke and show a little less surface salt. Soaking, however, does not remove much salt from the center of the cuts. Most over-salted meat is still too salty whether it is soaked or not. Over-soaking may spoil the flavor.
4. Control the time in cure.

- a. Two days per pound, with a minimum of 25 days, is the standard curing time for hams and shoulders. That means that a 10-pound ham would stay in cure 25 days, a 12-pound ham 25 days, a 15-pound ham 30 days. Three days per pound is recommended by many operators to give the salt more time to penetrate to and into the bone. With the longer time there is more need to limit the amount of salt. Too much salt and too much time result in the over-salted meat that the ladies do not like.
 - b. Bacon strips will dry-cure in 14 to 20 days, depending on size. They must be brushed off and stacked on top of the hams if they are not washed and smoked before the hams are ready.
 - c. Properly salted, dry-cured meat will often show little if any surface salt for several days before its curing time is up. During that period the excess salt in the outer layers of the meat is traveling to the under-salted inner portions. Do not re-cover these exposed cuts with more salt. Take care to give the meat the proper amount of curing mixture when it is put in cure and overhauled. Then let it alone and don't worry. Don't worry even if some mold develops on the surface of the meat. If the pork has been well chilled, kept cold, and properly salted, that mold has done no harm and can be scrubbed off with a stiff brush and warm water just before smoking.
5. Keep the meat clean.
- a. Women pride themselves on the wholesome cleanliness of their kitchens. They expect their cured meat to be handled with equal care. Customers think many things about dirty curing bins, trucks, floors, hands, and aprons that they are too polite to say aloud. Hot water, washing powder, and continuing effort are essential if sound wholesome meat products are to be made. Sanitary construction of buildings and floor drains makes the task easier.
 - b. Poorly cleaned carcasses, or ones that are contaminated later in handling, handicap the curer who wants to do a firstclass job.
6. Protect cured meat in storage.
- a. Smoking cured pork dries out some excess moisture, colors and flavors the product, and tends to delay the development of rancidity in the fat.
 - b. If meat is not smoked it should be hung to dry somewhat before being wrapped for storage. Dry-cured smoked meat often weighs from 88 to 92 percent of its fresh weight.

- c. Cured pork can be cut into roasts or slices, frozen, and stored in a frozen food locker.
- d. After some surface drying, cured pork can also be wrapped to protect it from insects and hung in a dry, dark, ventilated, storage room.
- e. Chill room storage will protect smoked meat from insects, rats, and thieves, but surface mold may develop. If the chill room is dry this mold can be washed off, usually without affecting the flavor.
- f. The old-ham tang develops more slowly in the chill room than at higher temperatures.
- g. The very mild commercially cured hams rarely contain enough salt to store safely through hot weather without refrigeration.
- h. Bacon is usually better flavored in the spring than after summer storage. High summer temperatures may cause it to develop a strong flavor.

Whether pork is dry-cured, brine-cured, stitch-pumped or artery-pumped, the same care is needed to chill the meat promptly, keep the curing meat cold, control the quantity of salt, give the meat ample time to cure, and keep both meat and equipment clean.

